

REMARKS

Claims 22-24 are pending in this application. By this Amendment, claims 22 and 24 are amended. Reconsideration of the application in view of the amendments and the following remarks is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

Claims 22-24 stand rejected under 35 U.S.C. §102(e) as being anticipated by Chen (U.S. Patent No. 6,063,647). Applicants respectfully traverse the rejection.

In particular, Chen fails to disclose or suggest a flexible printed wiring board including a metal bump having a front face where a resin coating is completely removed from the front face to entirely expose the front face of the metal bump from the surface of the resin coating, as recited in independent claim 22.

Chen discloses in Fig. 1c and Fig. 3a that only a *portion* of the insulating layer 36 is removed to expose a *portion* of the bump 30. For example, Chen discloses that the removal of the insulation layer 36 should be limited to the area proximate the apexes 32 of the bumps 30, at points substantially beyond plane A. Only small amounts of the insulating layer 36 should be removed during this process, so that a sufficient portion of the insulating layer 36, remains on the bump and substrate of the circuit element 20 (Fig. 1c). See for example, col. 6, lines 30-37.

Fig. 3c in Chen discloses that the resultant circuit element 20' has an exposed *portion* of the surface 30a of the bumps 30, that is proximate the apexes 32 of the bumps 30. Additionally, sufficient amounts of the material insulating layer 36 remain on the substrate 22 and the bump 30 of the circuit element 20' to facilitate the mechanical connection between the circuit elements 20', 21. Preferably, sufficient amounts of the insulating layer 36 remains intact, having been unaffected by this removal step. See for example, col. 7, lines 19-34.

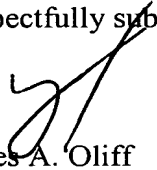
*In contrast, Chen does not disclose or suggest the resin coating is completely removed from the front face of the metal bump to entirely expose the front face of the metal bump from the surface of the resin coating, as recited in independent claim 22. On the contrary, Chen discloses that because only a *portion* of the insulation is removed, only a *portion* of the bumps is exposed.

Accordingly, because Chen fails to disclose this feature, independent claim 22 defines patentable subject matter. Claims 23-24 depend from independent claim 22, and therefore also define patentable subject matter. Accordingly, Applicants request that the rejection under 35 U.S.C. §102(e) be withdrawn.

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 22-24 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,


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Attachment:

Appendix

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<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
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Sub B1

~~from the surface of said resin coating.~~

23. A flexible printed wiring board according to Claim
22 wherein said metal film is patterned in a
5 predetermined form.

Sub B2

24. A flexible printed wiring board according to claim
23 wherein an electric device is mounted on said
flexible printed wiring board and a bonding pad of said
10 electric device is connected with the end of said metal
bump.

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APPENDIX

Changes to Claims:

The following is a marked-up version of the amended claims:

22. (Amended) A flexible printed wiring board comprising a metal film, a resin coating on said metal film, and a metal bump located in an opening formed in said resin coating, the metal bump having a front face and connected at its bottom face to said metal film and having a height greater than the thickness of said resin coating, wherein said resin coating is completely removed by etching at least at the portion located at an end from said front face of said metal bump to entirely expose the ~~end~~ front face of said metal bump from the surface of said resin coating.

24. (Amended) A flexible printed wiring board according to claim 23 wherein an electric device is mounted on said flexible printed wiring board and a bonding pad of said electric device is connected with the ~~end~~ front face of said metal bump.